REMARKS

Claims 15-46 are pending and rejected. Claim 29 was previously withdrawn. Claims 15 and 37 are now amended.

The Examiner states that restriction is the issue because up to this point, the invention was that of performing a phototherapeutic procedure, and now applicants are changing the invention to recite a method of performing a type I photosensitizing procedure.

Applicants respectfully assert that they have not changed the invention. Applicants' invention, as filed and as remains, is a method of administering to a target tissue an effective amount of a sulfenate photosensitizer having the formula recited in the claim, and then exposing the target tissue with light of the recited wavelength, power, and fluence rate. Stated another way, applicants have not changed either of these steps, which define the method.

Applicants have attempted to respond to the Examiner's imposed definition of "therapy". The Examiner's definition requires a beneficial end result from the process, and the Examiner is reading this definition into the claims. However, applicants claim the process itself. The Examiner's imposed definition of "therapy" would require every drug administered or every medical procedure performed to have a beneficial end result. While this is a goal of therapy, it is not the therapy itself. The therapy of administering a drug or performing a medical procedure, for example, is effected when those steps are performed. One takes an aspirin as therapy for a headache, regardless of whether the relief is complete, partial, or no relief results.

Applicants' amendments changed the adjective characterizing the claimed procedure. Applicants changed photo"therapeutic" to photo"sensitizing" in the preamble, not the body of the claim. This change is in accord with the method steps recited in the body of the claim itself; namely "...administering to a target tissue in an animal an effective amount of a sulfenate photosensitizer...".

In prosecution, the Examiner recognized two patentably distinct claim groups: compounds (claims 1-14) and methods of using the compounds (claims 15-36). Applicants elected the Group II methods. The Examiner rejected these claims under §112. Under ¶1, the basis was that "the term 'therapy' (or phototherapy) implies an assertion that an ill patient can be treated such that manifestations of the illness are ameliorated. However, there is no evidence that this will happen in the instant case". Under ¶2, the basis was that "the claims are indefinite as to what the objectives might be, and what the manifestations of a successfully completed procedure might be."

In further explaining these rejections, the Examiner requested that applicants consider prodrugs, and provided ten citations to prodrug disclosures. Applicants asserted they neither disclose nor claim a prodrug. The Examiner also requested that applicants consider photodynamic therapy (PDT) and provided six citations to PDT disclosures. Applicants asserted they neither disclose nor claim a PDT method.

To clarify for the Examiner their definition of "phototherapy" as supported in the specification, applicants noted the Examiner had applied a definition whereby efficacy was mandated by stating

> The term "therapy" (or phototherapy) implies an assertion that an ill patient can be treated such that manifestations of the illness are ameliorated.

Applicants responded that their term "phototherapeutic" described the type of procedure; this adjective did not mandate efficacy for the treatment outcome. Applicants explained that their claims required

> "A method of performing a phototherapeutic procedure". By following the claimed steps, the procedure is performed: the procedure involves exposure of tissue with light of the claimed wavelength, and is performed to treat tumors and other lesions by causing cellular injury to the lesions (page 10, lines 4-5; page 14, lines 17-20). Hence, it is a "phototherapeutic" procedure as recited in the claims; it will cause cellular injury due to the chemical nature of the claimed compound. No specific outcome of this "therapy" (i.e., that "an ill patient can be treated such that manifestations of the illness are ameliorated") is disclosed.

Applicants noted that the examiner was reading a particular end result or efficacy of the phototherapeutic procedure into the claim language, and argued that

> its method describes and enables formulations (e.g. solutions, suspensions), doses (e.g. about 1 nM to about 0.5M), excipients (surfactants, buffers), routes of administration (e.g. parenteral, topical), exposure conditions (wavelength, fluence), at least at pages 18, line 17 to page 20, line 8.

Applicants amended the claims to further characterize the procedure as type I, in view of the Examiner's including a discussion of singlet oxygen in his rejection. Because applicants' claimed photosensitizers do not require oxygen at all to cause cellular injury, but instead involve photoexcitation and direct energy transfer (page 5 lines 19-23; page 6, lines 11-13) and can occur in the absence of oxygen, applicants attempted to clarify their process by limiting the claimed photosensitizers to type I:

> Type 1 photosensitizers do not require oxygen for causing cellular injury... The present invention discloses novel aromatic sulfenates that react mainly by a type 1 mechanism for phototherapy of tumors and other lesions.

Regarding the rejections under §112 ¶2 as to what the objectives might be, and what the manifestations of a successfully completed procedure might be, applicants pointed out:

> 35 U.S.C. §112 ¶2 requires that claims particularly point out and distinctly claim the subject matter which the applicant regards as his invention. As analyzed previously, the claims recite "A method of performing a phototherapeutic procedure" by "the steps of (a) administering to a target tissue...a sulfenate photosensitizer" [of the required formula]", "and (b) exposing said target tissue with the light of wavelength between 300 and 950 nm with sufficient power and fluence rate to perform the phototherapeutic procedure.
>
> The method of performing the procedure requires a first step (a), which administers to a target tissue in an animal an effective amount of the compound shown, and then a second step (b), which exposes the target tissue to light of the recited wavelength and under the recited conditions, to perform the procedure. Applicants respectfully assert that this does particularly point out and distinctly claim the subject matter which applicants regard as their invention, completely satisfying the requirements of 35 U.S.C. §112 ¶2. The Examiner's request for "objectives" and "manifestations of a successfully completed procedure" are not required by 35 U.S.C. §112 ¶2.

As part of this Amendment, applicants attach Dr. Rajagopalan's Declaration to demonstrate predictability; he analyzed the chemistry and how a phototherapeutic procedure would result when the method was performed due to this chemistry. Dr. Rajagopalan also provided reasons why the Examiner's request for evidence "that an ill patient can be treated such that manifestations of the illness are ameliorated" was not required:

The "administering" and "exposing" steps will result in performing a phototherapeutic procedure, as claimed. This is at least because of the chemical structure of the photosensitizers; they are aromatic chromophores. By exposing these chromophores to light of the claimed wavelength, the aromatic rings are excited. The aromatic rings in their excited state effect intramolecular energy transfer to the sulfenate group. At least because of their chemical nature, sulfenates will undergo photochemical and thermal fragmentation (bond rupture) to produce two reactive free radicals. The chemistry of radicals implicates their involvement in cellular injury and death. In my opinion, due to this chemistry of the aromatic chromophores, activation will occur. In my opinion, due to the chemistry of the sulfenate moiety, energy will be transferred and free radicals will be generated.

I respectfully disagree with the Examiner's statement that "The term "therapy" (or phototherapy) implies an assertion that an ill patient can be treated such that manifestations of the illness are ameliorated." I do not understand the Examiner's basis for this, and would request that he point to this disclosure in the specification or provide support for his statement. Further, it appears that the Examiner is requesting clinical data; it is my understanding that clinical data of the type required for submission to the FDA are not required in a patent application.

The Examiner maintained the rejection: "...it is fair to conclude that "undue experimentation" would be required to perform a phototherapeutic procedure on an ill patient, given that the term "therapeutic" means that symptoms of the disease will be ameliorated." Thus, despite applicants' assertions that the claims recite steps for performing a procedure and do not require that manifestations of illness be ameliorated as an outcome of the procedure, the Examiner maintained that efficacy data would be required in order to allow the claimed method of "performing a phototherapeutic procedure".

Applicants then amended the claims to clarify its method, as supported in its specification. Because applicants' method "sensitizes" tissue, applicants changed the adjective describing its procedure from "phototherapeutic" to "photosensitizing", and further clarified that it was a "type I" procedure:

> The specification describes the claimed compound as a photosensitizer e.g., "An effective amount of a sulfenate photosensitizer having the formula ...is administered to a subject (page 7, line 21 to page 8, line 1); "The photosensitizer is allowed to accumulate in target tissue which is exposed to light of wavelength ..."; thus, the method using the compound is necessarily a photosensitizing method. Attached as part of this Amendment is a Declaration under 37 C.F.R. §1.132 with data further evidencing photosensitization by the claimed sulfenate/chromophore. Applicants believe this amendment completely overcomes the rejection under 35 U.S.C.§112 ¶1 and respectfully requests its withdrawal.

Thus, because the Examiner was importing limitations not taught in applicants' specification into claims regarding "phototherapy", applicants amended their claims to a "photosensitizing" method to clarify they were not claiming efficacy or amelioration of disease, as the Examiner had improperly construed them. Applicants' amendments were in accord with its arguments; applicant was not changing its method, as the Examiner now states.

> The amendments clarifying that the method involves a light activated ("photo") procedure do not generate a new invention. As evidence of this, none of the steps, components, sequence, etc. of the method have been amended. Thus, applicants are not attempting any imposition on the examiner, but instead have merely attempted to clarify the method they have claimed upon filing the application, using language that is in accord with their disclosure and that omits the term

"phototherapy" into which the examiner has introduced his own definition apart from the teachings of the specification.

As further evidence of enablement, applicants also attach a Declaration under 37 C.F.R. §1.132 from each of Drs. Dorshow and Rajagopalan, indicating how various target tissues may be exposed to light and photosensitized.

To advance prosecution, applicants include a Request for Continued Examination (RCE). However, applicants respectfully assert that their efforts to comport the language of the preamble more completely with their disclosure and procedural steps is not "changing the invention", such that they should not be required to file a RCE and pay the associated fee. Applicants' doing so is evidence of their bona fide attempt to advance prosecution, and should not be construed as meeting the Examiner's criteria: "in the event that applicants choose to file a request for continued examination, a change in the invention to that which is recited in the amendment filed 2/25/05 would not be precluded."

CONCLUSION

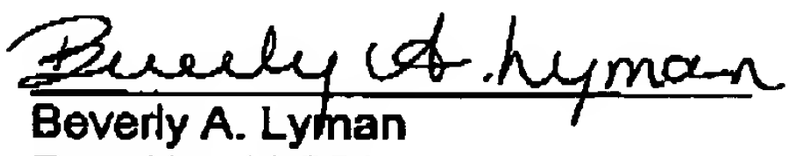
For the foregoing reasons, applicants believe they have complied with the Examiner's request in his Communication, and respectfully request consideration.

Applicants authorize the Commissioner to charge Deposit Account No. 23-3000 $790, the fee for the Request for Continued Examination, and $120, the fee for a one month extension requested in the Petition for Extension of Time submitted with this supplemental response. If any additional fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to Deposit Account No. 23-3000.

The Examiner is invited to contact applicants' undersigned representative with any questions.

Respectfully submitted,

WOOD, HERRON & EVANS. L.L.P.



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